Grain Inspection, Packers & Stockyards Administration SJ I - Revision I
Grain Inspection
Agricultural Commodity Technician (Grain)
GS-1981-5

I. **Introduction**

The field office carries out (1) the original inspection and weighing of grain under the U.S. Grain Standards Act of 1976, (2) the permissive inspection, weighing, and check loading of rice, pulses, processed grain products and other assigned commodities under the Agricultural Marketing Act of 1946, as amended, and (3) the supervision of these activities conducted by licensed inspectors and weighers employed by state governments or private firms.

The incumbent performs technical assignments in support of weighing and inspection activities of the field and/or sub-office. Work assignments are rotated between shifts and elevators within the circuit serviced by the field and/or sub-office. Normally, the incumbent is responsible for his or her own transportation to and from assigned points of inspection and may be required to operate a motor vehicle on official business.

II. DUTIES AND RESPONSIBILITIES

The incumbent is assigned weighing **and/or two or more** of the following inspection duties and responsibilities:

A. **Weighing**

Performs the full range of duties at any weighing station (railroad, truck, barge, or ships) such as checking and recording weighing activities to insure that all grain received by car, truck, or barge is removed and delivered to the scale without waste or loss and that all outgoing grain is delivered to the ships or other conveyance for which intended; and that all conveyances are clean, properly filled or emptied; and that seals are correctly attached. Reviews weighing activities of elevator employees and independently takes corrective action to change faulty procedures, improper techniques, or failure to follow required instructions or procedures. Reports malfunctioning equipment to elevator personnel and follows up to be sure that repairs are completed. If corrective action cannot be taken or controversial situations are encountered, immediately contacts supervisor for assistance. Compiles weighing records, prepares reports and performs other related weighing duties as assigned. May also be responsible for check-weighing, loading, and sampling of bagged or processed commodities.

B. Physical Tests

Prepares samples for inspection and file sample retention by dividing gross samples of grain to obtain official work and file sample portions. Maintains a dated sample retention system used for reinspection, appeal, and board appeal (BAR) inspections. Obtains "work" portions of specified weight, of wheat and other grain related commodities for inspection, and also processes industry requests for submitted samples and related inspection activities. Determines moisture content of grain and properly completes data logs for all laboratory functions.

C. Chemical Tests:

Performs **one or more** of the following laboratory chemical tests which involves preparing samples and solutions, calibrating the equipment when required, conducting the test, and recording the test results. Tests include, but are not limited to:

1. Mycotoxins: Conducts mycotoxin analyses using approved test methods. These tests measure mycotoxin which is a by-product of certain types of mold growth in a wide range of commodities. Special safety precautions are used while performing these analyses.

2. Protein/Oil: Conducts near-infrared reflectance testing (NIRT) which determines the protein/oil content of grains. Performs daily check-testing procedures to determine the calibration of (NIRT) analysis equipment. Prepares samples for analysis and maintains all appropriate environmental condition records and data logs.

3. Falling Number: Using the falling number testing method, makes specified measures of wheat flour and distilled water to perform a timed physical mixing procedure which, in conjunction with mechanical agitation and heating, measures the levels of Alpha Amylase activity in wheat.

4. Nuclear magnetic resonance analysis: Performs (NMR) testing, the method used for official sunflower seed oil determination. The NMR method is based on the principle of activating hydrogen atoms in the oil using electromagnetic radiation and a magnet.

5. Single kernel hardness test and/or glucosinolate test (i.e., 00-dip-test), and/or bleach test. Conducts the single kernel hardness test which measures the hardness distribution, as well as the average hardness of wheat kernels and provides information regarding potential wheat classifications (hard wheat, soft wheat, and mixed wheat). It also provides information about size, moisture, and weight of individual kernels. This analysis is provided by proper operation of the perten SKCS-4100 single kernel characterization system. The 00-dip test is a screening process that determines the level of glucosinolates prior to grading the oil seed canola. The Bleach Test is a process that removes seed coats from kernels of sorghum and wheat prior to class identification or germ-damage analysis.

6. Total Oil & Free Fatty Acid: Conducts total oil testing of milled rice in accordance with the Rice Inspection Handbook. Makes specified measures of rice flour and chemicals to perform a timed extraction, weighing, and calculations procedure. Special safety precautions are used while performing this analysis.

7. Enrichment: Performs enrichment analysis in determining the quality of milled rice under specification other than the standards. This quantitative test determines whether a sample of rice is enriched or not enriched with respect to the iron component.

D. Sampling

Obtains correct and representative samples of grain, grain products, rice and miscellaneous agricultural commodities which includes using all types of probe, tier, ellis-cup, pelican, and inbound diverter type equipment. Samples railroad cars, barges, trucks, vessels, or commodities stored in warehouses. Determines whether or not the grain, rice or commodities are of uniform

character and observes the condition of the cars or other storage areas and the containers into which it is being loaded. Notifies supervisor or the shipper when it is apparent that the grain/rice is being loaded into unclean cars or if the grain/rice is not of uniform quality. Prepares records of identification of samples, car seals, and lot numbers.

Monitors grain collected by mechanical (diverter-type) samples during export loading operations. Uses knowledge of inspection and weighing procedures for loading bulk grain to properly separate and maintain the integrity of sub-samples, components, and finished sublots for inspection. Calculates the proportional combination weights when single sublots are sampled through multiple systems of variable loading rates. Detects grain odors and distinguishes insect identification criteria and distinctly low quality (DLQ)/sample grade factors which affect compliance with continuous export weighing and inspection procedures/operations.

E. Rice

Prepares commodities for grading in accordance with Rice Handbook, instructions, and approved procedures. Makes determinations such as testweights, moisture, total rice and milling yield.

F. Commodity Inspection

Samples, checkweighs, checkloads, and inspects food and non-food products for AMS, FSA, DPSC, VA, and private contracts.

G. Other

May be assigned other related functions, as required, such as shiphold inspections.

III. **SUPERVISION AND GUIDANCE RECEIVED:**

Administrative guidance, instructions, and supervision are received from a Supervisory or Senior Agricultural Commodity Grader, responsible for the shift to which the incumbent is assigned. Additional technical guidance is available from Agricultural Commodity Technicians or Graders on the shift. Routine assignments are performed with a minimum of supervision. Completed work is spot-checked for correct application of the instructions and procedures. The employee is expected to be familiar with both grain inspection and weighing manuals and other miscellaneous written instructions.

IV. **OTHER FACTORS**

Physical Demands

Phases of work may require considerable physical exertion. Obtaining samples requires climbing onto trucks, barges, hoppers, rail cars, man lifts, etc.; using probes, pelicans, and similar sampling devices; and, moving and lifting grain containers or sacks weighing up to 55 pounds. Ship hold inspection involves climbing into and out of the hold and often at heights greater that 75 feet.

Work Environment

The work involves regular and recurring work in grain elevators subject to potentially explosive concentrations of grain dust. Works in rice mills, processed product plants, dock loading and unloading facilities and under various weather conditions. Must continuously take extensive safety precautions to avoid serious accidents resulting from these hazards.

Civil Rights

Adheres to Civil Rights policies, goals, and objectives in performing the duties of this position. Assures that written and oral communications are bias-free and that differences of other employees and clients are respected and valued.